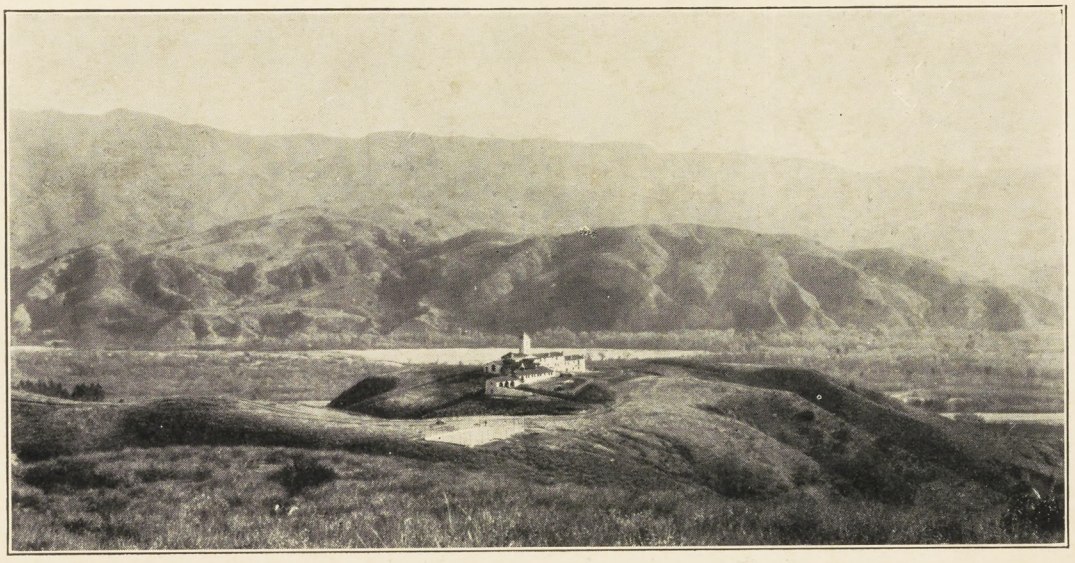

# Rancho Santa Ana Botanic Garden

of the

## Native Plants of California

## Herbarium

## Botanical Library

Established in Memory of
JOHN W. BIXBY, Pioneer

- 1 9 2 7 -

FIRST PRINTED REPORT OF

THE RANCHO SANTA ANA BOTANIC GARDEN
OF THE NATIVE PLANTS OF CALIFORNIA

JANUARY 1927 - JUNE 1931

# RANCHO SANTA ANA
## and its Botanic Garden Plan

Since 1809, when the first Spanish Grant to "Santiago de Santa Ana" was secured by Bernardo Yorba, the holdings now known as "Rancho Santa Ana" have belonged to only two families: The Yorbas, from 1809 to 1875 and to John W. Bixby and his heirs since the latter date. To the original grant Bernardo Yorba added the adjoining "Cañada de Santa Ana" and renamed his properties "Rancho Cajon de Santa Ana." Mr. Bixby added more acreage and named the whole "Rancho Santa Ana." This is an interesting bit of California land grant history in that so few of the old or original ranches in this "new" and rapidly-changing West, have remained intact in the possession of two pioneer families over so long a period as 120 years.

The garden site, comprising about 200 acres, has been carefully chosen to encompass as many different exposures and soils as possible in order to facilitate the problem of growing a variety of sun-loving, shade-loving, dry and moisture-loving plants which will be brought in from districts where different conditions prevail. Garden elevations range from 450 to 1100 feet above sea level. The topography is rolling hills with deep ravines between, that offer a chance to develop permanent moisture conditions. Varied soil types on the hill-slopes and exposed locations—full sun, semi-shade and dense shade, required for diversified plant growth, coupled with an adequate supply of irrigation water, present fine opportunities to approximate the natural environment for a great majority of collectable alien species. It therefore seems reasonable to anticipate that from 70% to 80% of California native species can be naturalized in the Santa Ana cañon.

The adobe ranch house occupies a commanding position on the mesa, 200 feet above the river, from which there is a magnificent view of the narrow wooded gorge of the Santa Ana Cañon. It is now the country home of the Bryant family, but will eventually go into the Garden Foundation, with its fire-proof Herbarium which is already open to interested visitors upon request.

A Board of Trustees of which Mr. Allen L. Chickering, of San Francisco is chairman, has been selected; and an endowment fund is in the making, the interest of which will be used for the maintenance of this California Botanic Garden which will be open to the public by card of invitation on certain week days during the year, as soon as sufficient planting is done to attract visitors.

The original planting plan for trees and shrubs was made by Mr. Ernest Braunton, at the suggestion of Doctor Charles Sprague Sargent, late director of the Arnold Arboretum. A plan for the planting around the house has just been completed by Mr. Frederick Law Olmstead; well known to us first for his achievements as a landscape architect in Boston, then to Californians for the landscaping at Palos Verdes Estates, and more recently for his splendid work in our State park survey and report.

The purposes of the Garden are many—and new objectives to be striven for will present themselves to the executives as the years go by and the program unfolds before them; therefore any attempt to enumerate our activities will be very incomplete at the outset.

A few of the departments already planned for are—

1. A planting of medicinal and pollen bearing plants to be used for serums in the cure of Hay-fever, Asthma and allied diseases.

2. Experiments are to be carried on to find best varieties of native trees, shrubs and flowers to propagate for planting in small gardens, where, for a minimum of cost and upkeep, a nice assortment can be selected requiring little or no irrigation or fertilization.

3. In the ranch pasture outside the confines of the Garden experimental plots (10, 20 or 50 acres in each) can be established for the growing of drought-resistant forage grasses for stock grazing, and trial blocks of dry-land timber trees which might prove of commercial value if they could be grown successfully without water on our parched hillsides. Flowering annuals and sun-loving perennials, too, can be broadcasted and easily propogated in large quantities for distribution.

To stimulate wider interest in the cultivation of some of the most beautiful native flowering trees and flowers, gifts of surplus nursery stock have already been made from time to time to the small parks, club grounds and parkways of Orange County.

The program for valuable scientific work to be carried out is three-fold in scope—The systematic assemblage and study of growing plants brought together from all parts of the State; the collection of Herbaria, embracing not only native California material, but such allied groups as will complete family histories and thus enhance the value of records and published reports; and lastly, a Botanical Library which should be the cornerstone upon which the foundation of the whole institution will be laid.

# Garden Plantings

## CONDITION REPORT, APRIL 1, 1931

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| A105 | 502 | Acer macrophyllum | Good, 2′-3′ | 3/11/29 | 9 | 3 | |
| | 833 | Acer macrophyllum | Good, 1′-2′ | 9/26/30 | 100 | 93 | |
| A21 | 911 | Aesculus californica | Fair, 6″-12″ | 1/10/31 | 85 | 85 | |
| | 1066 | Aesculus californica | Fair, 6″-12″ | 1/10/31 | 103 | 103 | |
| A87 | 480 | Berberis aquifolium | Good, 1′ | 12/18/29 | 17 | 17 | |
| A89 | 822 | Berberis californica | Good, 6″-14″ | 5/13/30 | 98 | 48 | |
| A93 | 664 | Berberis pinnata | Poor, 3″-6″ (Moved bare-root in north wind) | 2/ 8/30 | 53 | 3 | |
| A24 | 699 | Cercocarpus alnifolia | Good, 6″-12″ | 12/16/30 | 140 | 140 | |
| A25 | 184 | Cercocarpus betuloides | Fair, 1′-4′ | 1/15/29 | 155 | 90 | |
| A22 | 796 | Cercocarpus ledifolius | Fair, 3″-15″ | 10/16/30 | 118 | 116 | |
| A96 | 215 | Cneoridium dumosum | Very good, 1′-4′ | 1/ 9/29 | 276 | 247 | |
| A99 | 258 | Cornus californica | Very good, 2′-3′ | 1/10/29 | 126 | 78 | |
| A102† | 675 | Cornus glabrata | Good, 1′-2′ | 2/13/30 | 70 | 45 | |
| A104 | 622 | Cornus nuttallii | Poor, 6″ (Killed by dry weather) | 10/15/30 | 100 | 26 | |
| A72 | 704 | Crossosoma californica | Good, 9″-20″ | 2/13/30 | 35 | 20 | |
| A4 | 267 | Cupressus macnabiana | Good, 1½′-4′ | 1/ 7/29 | 21 | 15 | |
| | 266 | Cupressus macnabiana | Good, ½′-6′ | 1/ 7/29 | 83 | 64 | |
| A10 | 39 | Cupressus macrocarpa | Good, 3′-10′ | 12/29/28 | 275 | 274 | |
| A16 | 270 | Cupressus pygmaea | Good, 2′-10′ | 1/ 7/29 | 223 | 199 | |
| A17 | 252 | Cupressus sargentii | Good, 1′-6′ | 1/ 5/29 | 222 | 198 | |
| A30 | 370 | Ephedra californica | 1′ | 3/18/31 | 123 | 123 | |
| A84 | 499 | Eriodictyon crassifolium | Good, 5′ | 2/ 8/29 | 175 | 1 | |
| | 683* | Eriodictyon crassifolium | Good, 2′-4′ | 1/ 4/30 | 181 | 60 | Total 60 |
| | 757 | Eriodictyon crassifolium | Good, 2′-4′ | 1/ 4/30 | 181 | 60 | |
| | 760 | Eriodictyon crassifolium | Good, 2′-4′ | 1/ 4/30 | 181 | 60 | |
| A83 | 689 | Eriodictyon crassifolium var. traskiae | 1′ | 3/28/31 | 2 | 2 | |
| A81 | 513 | Eriodictyon trichocalyx | Good, 2′ | 2/26/29 | 71 | 13 | |
| | 682 | Eriodictyon trichocalyx | Good, 1′-2′ | Jan., 1930 | 125 | 26 | |
| A45 | 223 | Eriogonum cinereum | Good, 6″-14″ | 1/20/29 | 77 | 57 | |
| A49 | 504 | Eriogonum fasciculatum var. foliolosum | Poor, 6″ | 3/ 9/29 | 26 | 2 | |
| A50 | 703 | Eriogonum giganteum | Good, 1′-3′ | 2/13/30 | 31 | 17 | |
| | 697 | Eriogonum giganteum | Good, 6″-18″ | 9/20/30 | 100 | 97 | |
| A51 | 201 | Eriogonum parvifolium | Fair, ½′-2′ | 1/ 4/29 | 231 | 166 | |
| | 228 | Eriogonum parvifolium | Fair, ½′-2′ | 1/ 4/29 | 139 | 75 | |
| A75 | 709 | Isomeris arborea | Good, 1′-2½′ | 5/13/30 | 188 | 168 | |
| A76 | 211 | Isomeris arborea globosa | Good, 1′-2½′ | 1/11/29 | 313 | 292 | |
| A12 | 37 | Juniperus californica | Good, 1′-3′ | 2/12/29 | 110 | 100 | |
| A53 | 482 | Lavatera assurgentiflora | Good, 2′-8′ | 12/16/29 | 166 | 146 | |
| A35 | 531 | Lycium andersonii | Fair, 1′-2′ | 4/12/29 | 56 | 12 | |
| A36 | 656 | Lycium californicum | Very slow, 6″-24″ | 2/10/30 | 82 | 13 | |
| A37 | 532 | Lycium cooperi | Fair, 1′-2′ | 4/12/29 | 26 | 17 | |
| A41 | 701 | Lycium richii | Good, 1′ | 10/16/30 | 31 | 31 | |

*Garden bed numbers. †Destroyed by new road.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| A43 | 747 | Lycium torreyi wrightii | Good, 1′-2′ | 3/22/30 | 26 | 10 | |
| | 751 | Lycium torreyi wrightii | Good, 1′-2′ | 3/22/30 | 55 | 46 | |
| A3 | 290 | Pinus cembroides var. monophylla | Poor, 3″-6″ | 2/13/29 | 182 | 6 | |
| | 484 | Pinus cembroides var. monophylla | Good, 5′ | 1/13/29 | 1 | 1 | |
| A7 | 293 | Pinus coulteri | Poor, 3″-9″ | 1/18/29 | 120 | 20 | |
| | 534 | Pinus coulteri | Good, 8″-12″ | Dec., 1929 | 112 | 86 | |
| A5 | 32 | Pinus radiata | Good, 3′-8′ | 2/14/29 | 200 | 172 | |
| | 51 | Pinus radiata | Good, 5′-8′ | 1/14/29 | 78 | 78 | |
| A8 | 233 | Pinus sabiniana | Fair, 3″-12″ | 1/ 4/29 | 84 | 11 | |
| A6 | 148 | Pinus torreyana | Good, 18″-24″ | 1/18/29 | 4 | 3 | |
| | 204 | Pinus torreyana | Fair, 6″ | 1/18/29 | 57 | 14 | |
| | 351A | Pinus torreyana | Fair, 6″ | 1/18/29 | 19 | 8 | |
| | 561 | Pinus torreyana | Good, 6″-9″ | 9/27/30 | 108 | 102 | |
| A4 | 509 | Pinus tuberculata | Good, 6″-18″ (About 100 thinned out) | 1/ 7/30 | 445 | 308 | |
| A55 | 533 | Sphaeralcea ambigua | Poor, 12″-15″ | 4/15/29 | 83 | 16 | |
| A59 | 743* | Sphaeralcea densiflora | Good, 1′-3′ | 3/28/30 | 80 | 69 | Total |
| | 755 | Sphaeralcea densiflora | Good, 1′-3′ (Bad mixture includes S. ambigua) | 9/20/30 | 35 | 69 | 69 |
| A60 | 549 | Sphaeralcea densiflora | Good, 1′-4′ | 3/31/30 | 169 | 140 | |
| A61 | 505 | Sphaeralcea fasciculata var. laxiflorum | Good, 2′-4′ | 3/ 9/29 | 68 | 45 | |
| A33 | 521 | Styrax officinalis var. californica | Fair, 1′ | 3/ 9/29 | 58 | 12 | |
| | 790 | Styrax officinalis var. californica | Fair, 1′ | Apr., 1930 | 42 | 25 | |
| A97 | 774 | Thamnosma montana | Fair, 1′ | 1/10/31 | 17 | 15 | |
| | | **Section B** | | | | | |
| B105 | 525 | Alnus rhombifolia | Good, 8′-14′ | 3/15/29 | 100 | 6 | |
| | 676 | Alnus rhombifolia | Good, 1′-3′ | 12/11/30 | 83 | 52 | |
| B10 | 671 | Artemisia tridentata | Good, 2′-3′ | 3/24/30 | 110 | 110 | |
| B15 | 818 | Aster tortifolius | Poor, 3″-8″ | 10/20/30 | 24 | 5 | |
| B16 | 677 | Baccharis emoryi | Good, 1′-4′ | 3/25/30 | 112 | 109 | |
| B18 | 707 | Baccharis pilularis | Good, 1′-2′ | 3/26/30 | 130 | 117 | |
| B22 | 678 | Baccharis viminea | Good, 2′-4′ | 3/26/30 | 120 | 109 | |
| B23 | 720 | Bebbia juncea | Good, 1′-2′ | 5/14/30 | 151 | 127 | |
| B26 | 685 | Brickellia californica | Good, 1′-3′ | 3/27/30 | 175 | 150 | |
| B41 | 652 | Chysothamnus nauseosus var. gnaphalodes | Good, 1′ | 3/27/31 | 125 | 125 | |
| B41A | 803 | Chrysothamnus nauseosus var. viridulus | Good, 1′ | 3/16/31 | 79 | 79 | |
| B45A | 391 | Coreopsis gigantea | Good, 1′-3′ | 3/16/31 | 12 | 12 | |
| B72 | 16 | Cupressus forbesii | Good, 3′-4′ | 1/22/29 | 21 | 21 | |
| | 221 | Cupressus forbesii | Good, 3′-5′ | 1/22/29 | 152 | 147 | |
| B75 | 811 | Encelia actoni | Fair, 1′ | 1/ 7/31 | 8 | 6 | |
| B76 | 711 | Encelia californica | Good, 1′-2′ | 3/ 1/30 | 155 | 260 | Total |
| | 1077* | Encelia californica | Good, 6″ | 3/31/31 | 118 | 260 | 260 |
| B77 | 503 | Encelia farinosa | Good, 2′-3′ | 1/ 8/30 | 50 | 38 | |
| B77 | 754 | Encelia actoni | Young, 1′ | 9/20/30 | 25 | 25 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| B78 | 840 | Encelia frutescens | Young, 1′ | 1/ 7/31 | 85 | 70 | |
| B83 | 805 | Ericameria cuneata var. spathulata | Young, 1′ | 1/ 7/31 | 10 | 10 | |
| B89 | 733 | Ericameria pinifolia | Poor, 3″-8″ | 4/ 9/30 | 82 | 20 | |
| B91 | 727 | Eriophyllum confertiflorum | Mature size, 6″-15″ | 4/ 1/30 | 104 | 72 | |
| B103 | 773 | Franseria dumosa | Young, 1′ | 3/18/31 | 165 | 165 | |
| B104 | 855 | Franseria eriocentra | Young, 1′ | 3/18/31 | 112 | 112 | |
| B99 | 777 | Hazardia squarrosa | Fair, 1′ | 1/ 7/31 | 52 | 49 | |
| | 1076 | Hazardia squarrosa | Fair, 1′ | 1/ 7/31 | 48 | 35 | |
| B101 | 669 | Hymenoclea monogyra | Fair, 1′-3′ | 5/10/30 | 62 | 53 | |
| B102 | 775 | Hymenoclea salsola | Fair, 1′-3′ | 5/10/30 | 65 | 61 | |
| B69 | 11 | Libocedrus decurrens | Good, 4′ | 2/15/29 | 2 | 2 | |
| | 21 | Libocedrus decurrens | Good, 1′-4′ | 2/15/29 | 92 | 88 | |
| | 281* | Libocedrus decurrens | Good, 1′-4′ | 2/15/29 | 92 | 88 | Total 88 |
| | 294 | Libocedrus decurrens | Good, 1′-4′ | 2/15/29 | 92 | 88 | |
| | 317 | Libocedrus decurrens | Good, 1′-4′ | 2/15/29 | 92 | 88 | |
| | 317 | Libocedrus decurrens | Good, 15″ | 1/10/31 | 20 | 20 | |
| B59 | 472 | Pinus contorta murrayana | Fair, 12″-15″ | 4/ 2/30 | 250 | 105 | |
| B57 | 492 | Pinus ponderosa | Fair, 6″-8″ | 1/15/30 | 135 | 89 | |
| B57½ | 23 | Pinus ponderosa jeffreyi | Good, 1′ | 2/14/29 | 1 | 1 | |
| | 29 | Pinus ponderosa jeffreyi | Poor, 6″ | 2/14/29 | 111 | 13 | |
| | 69 | Pinus ponderosa jeffreyi | Fair, 6″-12″ | 2/14/29 | 6 | 5 | |
| B67 | 38 | Sequoia gigantea | Good, 1′-4′ | 1/22/29 | 124 | 34 | |
| B68 | 36 | Sequoia sempervirens | Good, 2′-5′ | 1/22/29 | 103 | 41 | |
| | | | **Section C** | | | | |
| C172 | 506 | Adenostoma fasciculatum | Good, 1′-5′ | 2/27/29 | 220 | 119 | |
| C172A | 742 | Adenostoma sparsifolium | Good, 1′-3′ | 4/ 9/30 | 151 | 115 | |
| C | 536 | Agave consociata | Good, 1′-2′ | 3/12/28 | ---- | 40 | |
| C | 352 | Agave shawii | Good, 1′-2′ | 3/12/28 | 30 | 20 | |
| C148 | 798 | Amelanchier alnifolia | Poor, 1′-2′ | 4/29/30 | 52 | 20 | |
| C | 322 | Antirrhinum speciosum | Poor, 1′-2′ (Eaten by rabbits) | 3/15/29 | 45 | 23 | |
| C114 | 479 | Arbutus menziesii | Very good, 2′-5′ | 1/ 1/30 | 138 | 136 | |
| C57 | 748 | Atriplex canescens | Good, 1′-3′ | 4/ 1/30 | 55 | 55 | |
| C60 | 782 | Atriplex lentiformis | Good, 1′-2′ | 10/20/30 | 61 | 59 | |
| C64 | 783 | Atriplex polycarpa | Good, 1′-2′ | 5/ 9/30 | 115 | 110 | |
| C78 | 261 | Calycanthus occidentalis | Very good, 1′-4′ | 2/20/29 | 211 | 104 | |
| C179 | 702 | Ceanothus arboreus | Good, 1′-2′ | 10/15/30 | 108 | 108 | |
| C175 | 55 | Cercidium torreyanum | Eaten by rabbits, 8″ | 2/24/29 | 4 | 2 | |
| | 93 | Cercidium torreyanum | Eaten by rabbits, 6″-3′ | 2/23/29 | 12 | 11 | |
| C176 | 517 | Chilopsis linearis | Good, 1′-2½′ | 1/18/30 | 150 | 138 | |
| C155 | 808 | Coleogyne ramosissima | Fair, 1′ | 5/13/30 | 73 | 38 | |
| C158 | 441 | Crataegus douglasii | Good, 3′ | 2/10/31 | 3 | 3 | |
| | 444 | Crataegus douglasii | Good, 3′-4′ | 2/10/31 | 36 | 36 | |
| C104 | 655 | Euphorbia misera | Good, 1′-2′ | 2/10/30 | 130 | 61 | |
| C67 | 813 | Grayia spinosa | Poor, 1′ | 5/10/30 | 45 | 3 | |
| C100 | 740 | Helianthemum scoparium var. vulgare | Good, 8″-15″ | 4/ 8/30 | 92 | 32 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| C160 | 260 | Holodiscus discolor | Very good, 3′-6′ (Loss caused by earth slide) | 2/27/29 | 171 | 130 | |
| C161 | 719 | Holodiscus discolor | Fair, 1′ | 10/18/30 | 24 | 20 | |
| C81 | 708 | Lonicera hispidula var. californica | Good, 8″-24″ | 4/ 1/30 | 44 | 21 | |
| C82 | 453 | Lonicera interrupta | Very good, 6″-14″ | 10/17/30 | 47 | 46 | |
| C84 | 590 | Lonicera involucrata var. ledebourii | Good, 3″-8″ | 10/17/30 | 51 | 51 | |
| C85 | 673 | Lonicera subspicata | Very good, 1′-3′ | 2/10/30 | 62 | 44 | |
| | 726 | Lonicera subspicata | Good, 6″-18″ | 9/19/30 | 26 | 26 | |
| C166 | 27 | Photinia arbutifolia | Good, 6′-10′ | 3/ 1/29 | 34 | 121 | Total |
| | 327* | Photinia arbutifolia | Good, 6′-10′ (Loss caused by earth slide) | 2/26/29 | 137 | 121 | 121 |
| C168 | 613 | Physocarpus capitatus | Fair, 1′ | 10/18/30 | 90 | 65 | |
| C109 | 31 | Pinus muricata | Good, 2′-6′ | 2/19/29 | 45 | 30 | |
| C | 364 | Platanus racemosa | Good, 8′-20′ | 3/ 9/29 | 14 | 6 | |
| C41 | 688 | Pluchea sericea | Good, 1′-2′ | 12/12/30 | 127 | 122 | |
| C170 | 798 | Purshia glandulosa | Small, 6″ | 11/20/30 | 102 | 95 | |
| C171 | 593 | Purshia tridentata | Small, 6″ | 10/18/30 | 28 | 23 | |
| C21 | 319 | Quercus agrifolia | Fair, 1′-3′ | 2/23/29 | 199 | 44 | |
| | 496 | Quercus agrifolia | Good, 1′-3′ | Dec., 1929 | 106 | 88 | |
| C23 | 750 | Quercus engelmannii | Good, 3″-10″ | 10/20/30 | 50 | 43 | |
| C17 | 520 | Quercus kelloggii | Slow, 3″ | 1/ 6/30 | 60 | 2 | |
| C4 | 494 | Quercus lobata | Fair, 1′-5′ | 1/ 9/30 | 90 | 90 | |
| C4 | 1074 | Quercus lobata | Good, 6″ | 3/28/31 | 16 | 16 | |
| | 937 | Quercus lobata | Good, 6″ | 3/28/31 | 82 | 82 | |
| C70 | 185 | Rhus integrifolia | Good, 3′-5′ | 2/23/29 | 170 | 160 | |
| C71 | 320 | Rhus laurina | Good, 2′-4′ | 2/18/30 | 47 | 47 | |
| C72 | 541 | Rhus ovata | Good, 6″-10″ | 10/16/30 | 180 | 176 | |
| C73 | 530 | Rhus trilobata | Fair, 1′-3′ | 3/19/29 | 200 | 43 | |
| C133 | 527 | Rosa californica | Good, 3′-4′ | 3/18/29 | 150 | 27 | |
| | 681 | Rosa californica | Good, 1′-3′ | Jan., 1930 | 96 | 74 | |
| C128 | 1000 | Rubus leucodermis | Good, 1′ | 3/27/31 | 49 | 49 | |
| C129 | 621* | Rubus parvifolius | Fair, 1′ | 9/19/30 | 30 | 100 | Total |
| | 737 | Rubus parvifolius | Fair, 1′ | 4/ 3/30 | 121 | 100 | 100 |
| C132 | 749 | Rubus vitifolius | Very good, 1′-3′ | 3/ 5/30 | 180 | 151 | |
| C87 | 712 | Sambucus glauca | Good, 1′-5′ | 2/11/30 | 84 | 83 | |
| C89 | 591 | Sambucus racemosa callicarpa | Good, 1′ | 10/18/30 | 110 | 107 | |
| C91 | 804 | Sambucus velutina | Good, 1′-4′ | 4/29/30 | 29 | 18 | |
| C105 | 654 | Securingea fasciculata var. hallii | Fair, 6″ | 10/17/30 | 6 | 6 | |
| | 786 | Securingea fasciculata var. hallii | Fair, 6″ | 10/17/30 | 44 | 31 | |
| C42 | 650 | Senecio douglasii | Good, 1′-3′ | 4/ 1/30 | 140 | 89 | |
| | 745 | Senecio douglasii | Good, 2′-3′ | 4/ 1/30 | 21 | 15 | |
| C76 | 216 | Simmondsia californica | Slow, 2″-16″ (Eaten by rabbits) | 2/22/29 | 181 | 153 | |
| C145 | 939 | Spirea douglasii | Good, 1′ | 3/26/31 | 61 | 61 | |
| C45 | 806 | Stenotopsis linearifolius var. interior | Good, 6″ | 2/17/31 | 55 | 55 | |
| | 814 | Stenotopsis linearifolius var.interior | Good, 6″ | 2/17/31 | 148 | 148 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Planting Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| C94 | 672 | Symphoricarpos mollis | Good, 1′-2′ | 2/14/30 | 105 | 93 | |
| | 768 | Symphoricarpos mollis | Good, 1′-2′ | 3/29/30 | 77 | 72 | |
| C48 | 724 | Tetradymia comosa | Poor, 6″-12″ | 5/10/30 | 48 | 5 | |
| C106 | 639 | Torreya californica | Fair, 5″-10″ | 10/17/30 | 70 | 68 | |
| C53 | 785 | Viguiera deltoidea var. parishii | Good, 1″ | 5/11/30 | 68 | 30 | |
| C54 | 668 | Viguiera laciniata | Very good, 1′-2′ (Some taken out by new road) | 2/18/30 | 122 | 57 | |
| C179A | 693 | Vitis girdiana | Good, 1′ | 3/18/31 | 16 | 16 | |
| | | **Section D** | | | | | |
| D73 | 625 | Acacia greggii | Fair, 6″-15″ (Badly eaten by rabbits) | 3/21/30 | 133 | 83 | |
| D | 536 | Agave consociata | Good, 1′-2′ | 3/12/28 | .... | 57 | |
| D76 | 636 | Amorpha fruticosa | Fair, 6″-12″ (Eaten by rabbits) | 9/26/30 | 125 | 115 | |
| D24 | 219 | Arctostaphylos canescens | Fair, 1′-3′ (Bed contains 15 A. glauca) | 2/11/29 | 77 | 31 | |
| D32 | 741 | Arctostaphylos glauca | Good, 1′-2′ | 4/ 7/30 | 135 | 121 | |
| D38 | 761 | Arctostaphylos pungens | Good, 1′-2′ | 4/ 7/30 | 116 | 80 | |
| D146 | 702 | Ceanothus arboreus | Good, 1′-2′ | 10/15/30 | 70 | 65 | |
| D148 | 557 | Ceanothus austromontanus | Good, 3″-12″ | 9/25/30 | 84 | 41 | |
| D152 | 553 | Ceanothus cuneatus | Good, 1′-2′ | 9/25/30 | 229 | 188 | |
| | 594 | Ceanothus cuneatus | Good, 1′-2′ | 9/25/30 | 35 | 34 | |
| | 568 | Ceanothus cuneatus | Good, 2′-3′ | 2/20/31 | 18 | 18 | |
| D156 | 567 | Ceanothus dentatus var. impressus | Fair, 1′-2′ | 2/20/31 | 20 | 20 | |
| D- | 353 | Cereus emoryi | Fair, 1′ | 3/12/28 | 65 | 23 | |
| D- | 361 | Cereus engelmannii | Fair, 1′ | 3/13/28 | 30 | 30 | |
| | 369 | Cereus engelmannii | Fair, 1′ | 5/21/28 | 32 | 32 | |
| | 384 | Cereus engelmannii | Fair, 1′ | 5/23/28 | 18 | 18 | |
| D- | 379 | Cereus mohavensis | Good, 8″ | 5/22/28 | 14 | 12 | |
| D111A | 481 | Cercis occidentalis | Fair, 1′ | 3/17/31 | 137 | 137 | |
| D9 | 474 | Chamaecyparis lawsoniana | Good, 1′-2′ | 3/29/30 | 115 | 113 | |
| D- | 356 | Cotyledon edule attenuata | Fair. 3″ | 3/12/28 | 55 | 5 | |
| D136 | 687* | Diplacus longiflorus | Good, 1′-3′ | 2/12/30 | 141 | 183 | Total 183 |
| | 725 | Diplacus longiflorus | Good, 1′-3′ | 9/22/30 | 61 | 183 | |
| D140 | 657 | Diplacus puniceus | Good, 1′-3′ | 2/11/30 | 145 | 113 | |
| D- | 377 | Echinocactus johnsonii | Good, 3″-6″ | 5/ 8/28 | 5 | 5 | |
| D- | 360 | Echinocactus cylindraceus | Fair, 1′-6′ | 3/14/28 | 104 | 54 | |
| D- | 354 | Echinocactus viridescens | Good, 3″-7″ | 3/12/28 | 95 | 80 | |
| D- | 228 | Eriogonum parvifolium | Poor, 6″-18″ | 3/ 7/29 | 80 | 26 | |
| D109 | 231 | Forestiera neo-mexicana | Good, 1′-2′ | 2/ 9/29 | 199 | 143 | |
| D160 | 54 | Fouquieria splendens | Good, 7″ | 2/23/29 | 1 | 1 | |
| | 80 | Fouquieria splendens | Fair, 6″-24″ | 2/23/29 | 23 | 12 | |
| | 359 | Fouquieria splendens | Fair, 8′-12′ | 3/12/28 | 27 | 24 | |
| D110 | 222* | Fraxinus dipetala | Fair, 1′-3′ | 2/ 7/29 | 127 | 102 | Total 102 |
| | 262 | Fraxinus dipetala | Fair, 1′-3′ | 2/ 7/29 | 75 | 102 | |
| D- | 92 | Holacantha emoryi | Good, 1′-2′ | 2/26/29 | 120 | 59 | |
| D71 | 776 | Larrea tridentata glutinosa | Poor, 1′ | 11/18/30 | 82 | 65 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| D82 | 718 | Lotus scoparius | Fair, 6″-18″ | 3/21/30 | 113 | 25 | |
| D97 | 734 | Lupinus albifrons eminens | Fair, 1′ | 1/10/31 | 45 | 40 | |
| D- | 381 | Mamillaria deserti | Good, 2″-5″ | 5/23/28 | 10 | 9 | |
| D- | 357 | Mamillaria dioica | Good, 1″-12″ | 3/13/28 | 40 | 33 | |
| | 358 | Mamillaria dioica | Good, 3″-6″ | 3/13/28 | 37 | 29 | |
| D- | 366 | Mamillaria tetrancistra | Good, 1″-6″ | 5/18/28 | 20 | 16 | |
| D51 | 623 | Myrica californica | Fair, 1′ | 2/10/31 | 11 | 11 | |
| D166 | 458 | Nolina parryi | Good, 6″-12″ | 1/20/30 | 110 | 76 | |
| D- | 378 | Opuntia acanthocarpa | Fair, 4′ | 5/21/28 | 3 | 2 | |
| D- | 365 | Opuntia basilaris | Fair, 1′ | 5/18/28 | 28 | 25 | |
| | 385 | Opuntia basilaris | Fair, 1′ | 5/23/28 | 12 | 11 | |
| D- | 367 | Opuntia bigelovii | Good, 2′-4′ | 5/18/28 | 31 | 24 | |
| D- | 380 | Opuntia chlorotica | Fair, 2′-3′ | 5/22/28 | 7 | 7 | |
| D- | 362 | Opuntia echinocarpa | Fair, 2′ | 3/12/28 | 3 | 3 | |
| | 382 | Opuntia echinocarpa | Fair, 2′-3′ | 5/23/28 | 17 | 17 | |
| D- | 402 | Opuntia erinacea | Good, 1′ | 5/23/28 | 13 | 12 | |
| D- | 400 | Opuntia occidentalis var. littoralis | Fair, 1′ | 3/13/28 | 12 | 12 | |
| D- | 355 | Opuntia serpentina | Fair, 6″ | 3/12/28 | 8 | 6 | |
| D- | 368 | Opuntia ramosissima | Good, 6″-12″ | 5/21/28 | 21 | 15 | |
| | 383 | Opuntia ramosissima | Fair, 2′-5′ | 5/23/28 | 17 | 10 | |
| D- | 401 | Opuntia ursina | Good, 6″-8″ | 5/23/28 | 16 | 16 | |
| D141 | 507 | Pentstemen antirrhinoides | Fair, 1′-2′ | 2/14/29 | 200 | 10 | |
| | 394 | Pentstemen antirrhinoides | Poor, 1′-2′ | Dec., 1929 | 147 | 147 | |
| D141A | 692 | Pentstemon cordifolius | Good, 1′ | 3/17/31 | 5 | 5 | |
| D143 | 552 | Pentstemon ternatus | Poor, 1′-2′ | 10/14/30 | 146 | 143 | |
| D2 | 52 | Pinus muricata | Good, 7′ | 2/19/29 | 9 | 9 | |
| D- | 95 | Platanus racemosa | Good, 5′-8′ | 3/ 9/29 | 42 | 31 | |
| D159 | 535 | Prosopis juliflora var. glandulosa | Good, 1′-3′ | 1/22/30 | 220 | 189 | |
| D158 | 465 | Prosopis pubescens | Fair, 1′-4′ | 1/21/30 | 245 | 155 | |
| D56 | 463 | Prunus demissa | Fair, 6″ | 4/ 3/30 | 64 | 27 | |
| | 767 | Prunus demissa | Poor, 1′ | 4/ 3/30 | 12 | 8 | |
| D58 | 163 | Prunus fasciculata | Poor, 6″-12″ | 2/24/29 | 147 | 34 | |
| D59 | 870 | Prunus fremontii | Fair, 1′ | 2/18/31 | 150 | 150 | |
| D61 | 315 | Prunus ilicifolia | Fair, 1′-2′ | 2/24/29 | 270 | 166 | |
| D54 | 495 | Prunus ilicifolia var. integrifolia | Good, 1′-3′ | 1/18/30 | 200 | 200 | |
| D55 | 929 | Prunus subcordata | Fair, 1′ | 2/10/31 | 65 | 65 | |
| D120 | 230* | Rhamnus californica | Good, 2′-3′ | 2/ 4/29 | 53 | 87 | Total 87 |
| | 395 | Rhamnus californica | Good, 2′-3′ | Dec., 1929 | 59 | 87 | |
| D126 | 226 | Rhamnus crocea | Good, 1′-2½′ | 2/ 7/29 | 259 | 226 | |
| D127 | 183 | Rhamnus crocea ilicifolia | Good, 1′-3′ | 2/ 5/29 | 165 | 115 | |
| D128 | 698 | Rhamnus crocea insularis | Good, 3″-12″ | 10/14/30 | 50 | 42 | |
| D167 | 466 | Washingtonia filifera | Poor, 3″-15″ | 1/21/30 | 124 | 104 | |
| D161 | 478 | Yucca brevifolia | Fair, 9″-12″ | 11/18/30 | 70 | 69 | |
| D162 | 218 | Yucca mohavensis | Good, 6″-24″ | 2/28/29 | 171 | 157 | |
| D164 | 15 | Yucca whipplei | Good, 12″-15″ | 3/ 1/28 | 82 | 77 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| | | | **Section E** | | | | |
| E16 | 229 | Ceanothus divaricatus | Good, 1′-3′ | 3/ 6/29 | 30 | 26 | |
| | 397 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 7 | 7 | |
| | 550 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 20 | 20 | |
| | 569 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 35 | 35 | |
| | 600 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 20 | 20 | |
| | 603 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 15 | 15 | |
| | 607 | Ceanothus divaricatus | Good, 1′ | 2/19/31 | 20 | 20 | |
| E23 | 551 | Ceanothus greggii var. perplexans | Good, 1′-5′ | 5/19/30 | 200 | 173 | |
| E24 | 576 | Ceanothus incanus | Good, 1′ | 2/19/31 | 26 | 26 | |
| | 585 | Ceanothus incanus | Good, 1′ | 2/19/31 | 3 | 3 | |
| E25 | 582* | Ceanothus integerrimus | Poor, 1′ | 9/24/30 | 43 | 36 | |
| | 598 | Ceanothus integerrimus | Poor, 1′ | 9/24/30 | 25 | 36 | Total 36 |
| | 604 | Ceanothus integerrimus | Poor, 1′ | 9/24/30 | 40 | 36 | |
| E26 | 582 | Ceanothus integerrimus | Fair, 12″-18″ | 5/19/30 | 62 | 57 | |
| | 597 | Caenothus integerrimus var. peduncularis | Good, 1½′ (2 of the 13 plants are C. incanus, origin unknown) | 5/19/30 | 13 | 8 | |
| | 597 | Ceanothus integerrimus var. peduncularis | Fair, 1′ | 9/24/30 | 75 | 75 | |
| E28 | 583 | Ceanothus jepsonii | Fair, 8″ | 2/19/31 | 41 | 41 | |
| E31 | 145 | Ceanothus macrocarpus | Good, 2′-3′ | 3/ 9/29 | 33 | 28 | |
| | 543 | Ceanothus macrocarpus | Good, 1′-1½′ | Dec., 1929 | 200 | 192 | |
| E32 | 565 | Ceanothus oliganthus | Good, 9″-24″ | 4/ 5/30 | 130 | 107 | |
| | 560 | Ceanothus oliganthus var. orcuttii | Fair, 1′ | 9/23/30 | 15 | 12 | |
| E43 | 571 | Ceanothus rigidus | Good, 6″-24″ | 5/16/30 | 235 | 150 | |
| E46 | 578 | Ceanothus sorediatus | Good, 1′-3′ | 5/17/30 | 150 | 131 | |
| E49 | 562 | Ceanothus spinosus | Very good, 2′-5′ | 3/ 4/30 | 230 | 223 | |
| E53 | 544 | Ceanothus tomenosus var. olivaceus | Good, 6″-15″ | 9/26/30 | 76 | 71 | |
| E47 | 575 | Ceanothus thyrsiflorus | Good, 1′-3′ | 3/ 3/30 | 155 | 140 | |
| | 586 | Ceanothus thyrsiflorus | Good, 1′ | 9/23/30 | 20 | 19 | |
| E51 | 236 | Ceanothus thyrsiflorus var. griseus | Poor, 1′-2½′ | 2/ 6/29 | 105 | 46 | |
| | 573 | Ceanothus thyrsiflorus var. griseus | Fair, 1′-3′ | Dec., 1929 | 175 | 141 | |
| E63 | 193 | Condalia parryi | Poor, 1″-12″ | 3/ 6/29 | 77 | 12 | |
| E58 | 1089 | Dendromecon rigida | Fair, 3″-15″ | 9/24/30 | 23 | 10 | |
| E2 | 287 | Fraxinus oregona | Good, 1′-4′ | 2/ 8/29 | 151 | 100 | |
| E3 | 475 | Fraxinus velutina | Fair, 1′-2′ | 12/26/29 | 88 | 62 | |
| E83 | 448 | Garrya fremontii | Fair, 6″-12″ | 10/13/30 | 33 | 27 | |
| E84 | 288 | Garrya veatchii | Fair, 1′-4′ | 2/ 6/29 | 78 | 33 | |
| E85 | 780 | Hyptis emoryi | Good, 1′-2′ | 10/13/30 | 48 | 48 | |
| E14 | 321 | Juglans californica | Good, 1′-3′ | 2/ 8/29 | 125 | 99 | |
| E15 | 497 | Juglans hindsii | Good, 1′-2′ | 12/23/29 | 92 | 80 | |
| E13 | 95 | Platanus racemosa | Good, 10′-20′ | 2/18/29 | 30 | 28 | |
| E6 | 526* | Populus fremonti var. pubescens | Good, 3′-7′ | 3/14/29 | 200 | 116 | Total 116 |
| | 679 | Populus fremontii var. pubescens | Good, 3′-7′ | Jan., 1930 | 133 | 116 | |
| E11 | 523 | Populus trichocarpa | Good, 3′-6′ | 3/13/29 | 85 | 22 | |
| | 680 | Populus trichocarpa | Good, 1′-4′ | Jan., 1930 | 90 | 53 | |

*Garden bed numbers.

| Bed No. | Field No. | Name of Plant | Condition | Original Planting Date | Quan. | Quan. Alive 4/1/31 | |
|---|---|---|---|---|---|---|---|
| E93 | 769 | Ribes aureum gracillimum | Good, 1′-2′ | 10/14/30 | 20 | 20 | |
| E97 | 722 | Ribes californicum var. hesperium | Poor, 1′-2′ | 2/26/30 | 47 | 8 | |
| E108 | 721 | Ribes malvaceum | Poor, 1′-3′ | 2/26/30 | 65 | 16 | |
| E109 | 723 | Ribes malvaceum indecorum | Fair, 1′-2′ | 2/26/30 | 80 | 39 | |
| E112 | 615 | Ribes menziesii | Good, 1′ | 3/28/31 | 150 | 150 | |
| E117 | 793 | Ribes nevadense | Fair, 1′ | 10/13/30 | 112 | 102 | |
| E118 | 746 | Ribes quercetorum | Poor, 1′ | 3/22/30 | 110 | 33 | |
| E119 | 735 | Ribes roezlii | Poor, 1′-2′ | 3/22/30 | 68 | 40 | |
| E123 | 243 | Ribes sanguineum var. glutinosum | Poor, 1′-4′ | 2/18/29 | 155 | 78 | |
| E125 | 686 | Ribes speciosum | Fair, 1′-3′ | Jan., 1930 | 80 | 79 | |
| E128 | 705 | Ribes viburnifolium | Poor, 1′ | 2/12/30 | 60 | 7 | |
| E60 | 684 | Romneya coulteri | Poor, 1′ | Jan., 1930 | 250 | 2 | |
| E86 | 807 | Salazaria mexicana | Fair, 3″-15″ | 10/13/30 | 35 | 35 | |
| E65 | 713 | Salvia apiana | Good, 1′-4′ | 2/28/30 | 134 | 121 | |
| E67 | 801 | Salvia carnosa compacta | Good, 1′ | 12/29/30 | 60 | 58 | |
| | 810 | Salvia carnosa compacta | Good, 1′ | 12/29/30 | 79 | 77 | |
| E68 | 516 | Salvia carnosa pilosa | Fair, 1′-2′ | 2/25/29 | 50 | 26 | |
| | 809 | Salvia carnosa pilosa | Good, 1′ | 12/29/30 | 137 | 134 | |
| | 812 | Salvia carnosa pliosa | Good, 1′ | 12/29/30 | 42 | 41 | |
| E69 | 208 | Salvia clevelandii | Good. 2′ | 2/ 9/29 | 13 | 8 | |
| | 739 | Salvia clevelandii | Good. 6″-15″ | Apr., 1930 | 65 | 53 | |
| E76 | 826 | Salvia mohavensis | Good, 1′ | 2/20/31 | 10 | 10 | |
| E57 | 147* | Sphacele calycina | Good, 2′-3′ | 2/ 5/29 | 8 | 4 | Total 4 |
| | 254 | Sphacele calycina | Good, 2′-3′ | 1/ 4/29 | 15 | 4 | |
| | 730 | Sphacele calycina | Good, 1′-2′ | Feb., 1930 | 15 | 9 | |
| E74A | 405 | Trichostema lanatum | Good, 1′ | 3/17/31 | 17 | 17 | |
| E75A | 511 | Trichostema lanatum var. denudatum | Good, 1′ | 3/17/31 | 34 | 34 | |
| E5 | 457 | Umbellularia californica | Good, 1′-2′ | 12/26/29 | 40 | 33 | |
| | 508 | Umbellularia californica | Good, 6″-12″ | 12/26/29 | 55 | 52 | |

*Garden bed numbers.

## SUPPLEMENTARY REPORT, APRIL 1, 1931

### List of Garden Plantings That Have Since Suffered a Complete Loss

| Bed No. | Field No. | Name of Plant | | Original Planting Date | Original Planting Quantity |
|---|---|---|---|---|---|
| A3 | 166 | Pinus cembroides monophylla | | 2/12/29 | 3 |
| A97 | 104 | Thamnosma montana | | 1/ 9/29 | 14 |
| A105 | 285 | Acer macrophyllum | | 2/ 4/29 | 3 |
| B63 | 473 | Abies concolor | X | 4/ 2/30 | 50 |
| B64 | 448 | Abies grandis | X | 4/ 2/30 | 107 |
| B65 | 489 | Abies magnifica | X | 4/ 1/30 | 100 |
| B13 | 469 | Aster cognatus | X | 3/24/30 | 33 |
| B57 | 35 | Pinus ponderosa | | 2/14/29 | 4 |
| B57½ | 25 | Pinus ponderosa jeffreyi | | 2/14/29 | 4 |
| C153 | 670 | Chamaebatia foliolosa australis | X | 2/28/29 | 80 |
| C168 | 259 | Physocarpus capitatus | | 2/28/29 | 3 |
| C170 | 514 | Purshia glandulosa | | 3/ 9/29 | 18 |
| C118 | 738 | Rhododendron occidentale | X | 4/ 3/30 | 44 |
| C- | 135 | Yucca brevifolia | | 3/27/28 | 16 |
| D108 | 510 | Pickeringia montana | X | 3/ 9/29 | 125 |
| D- | 386 | Yucca brevifolia | | 5/23/28 | 6 |
| D16 | 200 | Ceanothus divaricatus | | 3/ 7/29 | 15 |
| D58 | 512 | Dendromecon rigida | | 2/27/29 | 60 |
| | 663 | Dendromecon rigida | | Jan., 1930 | 62 |
| D99 | 758 | Ribes cereum | X | 3/21/30 | 46 |
| D125 | 500 | Ribes speciosum | | 3/13/29 | 125 |
| D60 | 498 | Romneya coulteri | | 2/ 7/29 | 600 |
| D69 | 660 | Salvia clevelandii | | Jan., 1930 | 85 |

X—Beds so designated have no living plants at present. The other beds have been replanted and are reported in the main body of the April 1st report.

Abies concolor, Abies grandis, Abies magnifica,—All of these species seem very difficult to raise. Rain-water in the Nursery would undoubtedly help these greatly, as well as all of the high mountain conifers and some shrubs.

Chamaebatia foliolosus australis,—Would not even start a root, cause unknown. This plant spreads from stolons and these were the material used.

Rhododendron occidentale,—This is quite famous for being hard to grow.

Pickeringia montana,—This plant very seldom fruits. It spreads from root shoots and these were tried.

Ribes cereum,—It is a high mountain form and could not stand the dry hillside.

DETAIL REPORT

# Rancho Santa Ana Botanic Garden

April 1, 1931

This report covers the more intimate details of the growth and general condition of the plants. This will largely be done by genus as what applies to one species will apply to nearly all species of the genus.

The Acers or Maples seem hard to germinate with the exception of Acer negundo var. californicum, but grow readily enough when established in the Garden if sufficient moisture can be applied.

The Berberis grow well from seed but those that are moved in bare-root do not start readily.

All of the Cercocarpus grow finely but are badly eaten by rabbits and squirrels.

The Cornus or Dogwoods, with the exception of Cornus californica, seem to miss the cold weather, this being quite essential to deciduous plants. Almost all deciduous plants need a definite period of dormancy to make them leaf out properly in the spring.

The Crossosoma from Catalina Island moved readily but the one from the desert only grows in rock crevasses so it cannot be moved.

All of the Cupressus grow equally well on cleared ground but cannot stand the close proximity of growth native to the Garden. This is equally true of nearly all trees and shrubs, the native shrubs being great robbers of moisture.

The Ephedras do well in pots but have not yet been in the Garden long enough for definite observation there.

The Eriodictyons all do well when once established but are very hard to transplant and are very difficult to grow from seed. Out of four or five collections not a seed has germinated. The plants spread from the roots so that one plant would make a good bed in four or five years.

The Eriogonum or Buckwheats do very well as located in section "A" but in section "D" the location is very poor for them. This location in "D" would be very good for the more shade-loving Ribes and they should be given that space.

Isomeris is very good and easy to handle.

Juniperus is slow and hard to germinate but grows very well in the Garden.

Lavatera is very good and easy to handle.

All of the Lyciums are easy to grow, either from plants or seed, but excess brush and perennial grass have crowded them out in some cases.

While most of the Pines have not done well in the Garden, except Pinus radiata, due to excess brush in all of the beds and the fact that several trees were in a sick condition, due to bad water, when planted. It would seem that all Pines will do well with the exception of three or four of the high mountain forms.

The Sphaeralceas are doing very well with the exception of Sphaeralcea ambigua. This has had lots of brush to contend with and a pipeline was dug thru the bed. The bed, when planted again, will probably do well.

The Styrax seem to be very hard to start but all observations and previous experience with the plant indicate that the tops will not develop until a good root system is formed, which takes from two to four years.

Thamnosma montana is not thriving, due to its location in heavy adobe soil.

**Section B**

The Alnus or Alders were collected bare-root. One collection of large trees, 7′ to 14′, did not do well. One collection of small plants, 6″ to 18″, is growing very well.

The Artemisias will do very well and grow easily from seed and plants.

The Asters, being from the desert, are hard to grow, both in Nursery and Garden, the soil conditions being very poor for them. Their location is in adobe whereas they always grow in sand.

Baccharis is very easy as it adapts itself to almost any condition.

Practically all of the Compositae or Sunflower family grow easily from seed or plants and nearly all that are planted in the Garden are doing well. A few from the desert give the most trouble.

The Libocedrus decurrens is rather hard to germinate but from that stage on are easy to handle and are growing beautifully in the Garden.

The Sequoias are quite easy to handle and in their location will probably do very well. The ones in the Garden were hurt some by bad water in the Nursery and by heavy brush in the Garden but those that are left are growing very rapidly now, as they should.

## Section C

The Adenostomas grow very well either from seed or from young plants. The greater part of the loss comes in the first three months while the plants are establishing themselves. They need little care after the first year.

Agaves are even hard to kill but the loss shown is due either to blooming, which always kills the plant, or to the fact that they had been cut off above the root crown. In some cases these that have been cut off will start roots again but very often it kills the plant.

The Amelanchiers so far have not done well either from plants or seed. These plants spread from a root-crown and it may be that they have nearly lost the power of sex propagation as there are few or no seedlings where the plants occur in Southern California. This is the case with the Eriodictyons.

Antirrhinum speciosum is a particularly beautiful plant to look upon and the rabbits find it exceptionally palatable. Otherwise, it is very easily raised and cared for.

Contrary to all advice Arbutus or Madrono grew readily from seed and have put on a remarkable growth (2½′ in 15 months) in the Garden.

Atriplex, commonly called Salt Brush, grows like a weed, with the exception of Atriplex hymenelytra, Desert Holly, which has not responded satisfactorily to care or abuse as yet.

Calacanthus or Sweet-scented Bush does very well, but, being among the first planted and needing much moisture, most of the loss occured during the first six months.

Cercidium torreyanum, one of the Pea family, is quite typical of its class, being a ready prey for the rabbits. With the exception of Lupinus the rabbits keep these shrubs well trimmed. This family does not like to be transplanted or to have its roots disturbed in any way.

Chilopsis linearis grows most readily from cuttings, as all in the Garden were raised, but will grow from seed. Seed is slow and the young plants are very delicate. This is also true of the cultivated varieties of the Bignonia Family.

Coleogyne ramosissima from the desert is rather hard to handle. Only one collection of seed and one of plants have been propagated so no real knowledge of the proper care is available.

Crataegus douglasii grows rapidly and spreads from root shoots.

Euphorbia misera grows readily from seed, cuttings, or dug plants. It is planted in a poor place to start it, which accounts for the loss, yet the place is quite typical of its habitat in the wild.

Grayia spinosa does not transplant well from the wild and no seed has been available as yet.

Helianthemum or Rock Rose transplants well from one-year-old seedlings but older plants do not thrive. Those left alive in the Garden are from the younger plants and are doing very well.

Holodiscus or Cream Bush grew well from seed and has done exceptionally well in the Garden.

Lonicera or Honeysuckle in all ways is very satisfactory and easily cared for.

Photinia or Toyon berry is the same, and the plant also is native to the Garden.

Physocarpus capitatus is poorly located as it has the opposite of a rich, moist, shady bank to grow in. When the Photinia bed gets larger it may do better.

Platanus racemosa or Sycamore does well except around the house where the soil is too heavy with no drainage.

Pluchea sericea is just like another weed for growth and adaptability.

The Purshias are very slow growing naturally and those in the Garden are no exception to the rule. The plants are sturdy and thrifty.

The Quercus or Oaks also are slow but thrifty, excepting those that had to be planted over a sandstone ledge that takes up quite an area in that part of the Garden. An effort is being made to grow a few in this area to cover the ledge.

The Rhus are probably making the best showing, of any genus of more than two species, in the Garden. All species are growing in the Garden and native to the Ranch, except Rhus trilobata anisophylla, a desert form.

Rosa does well and is very easily grown, either from seed or cuttings.

Rubus is the same.

The Sambucus also do very well.

Securingea is very slow growing and little is known of its culture. It is a very handsome shrub from the desert and may do quite well when established.

Simmondsia also is a fairly good shrub from the desert and San Diego County which feeds the wild animals with both its fruit and foliage. The prospectors call it the Desert Chinquapin and gather the nuts for food. Even though the rabbits eat it down each year in the Garden comparatively few have died. Each year it throws out a more sturdy growth.

Symphoricarpos is a low growing shrub that spreads from root shoots and is growing characteristically.

Torreya, California Nutmeg, is thrifty but too young for a definite report.

## Section D

Arctostaphylos handles best where one can find one to two-year-old plants in the wild. The seed of the varieties where the fruit breaks up into small nutlets germinates most readily and generally germinates the first year. But those where the nutlets are combined in a large solid nut do not germinate until the second and third year and then the germination is very poor. The plants dug in the wild are making a more even stand in the Garden than the seed-grown plants.

Ceanothus as a general rule does very well in the Garden. The ones that are not doing so well are the more shade-loving ones and they are doing better as they make more shade for themselves. Most of these are slow to germinate, especially the large seeded varieties, and are hard to establish in two-inch pots.

The Cactus Family as a whole is doing very well. Most all have been moved in and very few raised from seed. These plants have been given very little water or care of any kind. This year they begin to show that they are established and next year should make much more of a display.

Chamaecyparis or Lawson Cypress is very sturdy and has put on a normal growth.

Diplacus does very well and grows easily from seed or young plants.

Eriogonum has done very well in cleared land, but in brush, nothing!

Forestiera is very satisfactory.

Where the Fouquieria was planted on the sandstone ledge it does not and cannot grow, being starved for food and during the winter too much water. What water gets to the plants stands too long in the hole in the ledge where they are planted. Those planted in the sandy flat are growing quite well.

Fraxinus or Ash is very easily grown in the Nursery and with the exception of one bed, has thrived in the Garden. Fraxinus dipetala is on a hot. dry, steep, sandstone soil slide that does not stand still long enough for the plants to become established.

Holocantha emoryi from the desert does not stand moving from pot to pot well but when established in the Garden makes normal growth.

Larrea, Creosote Bush, does not do well at all in its present situation. Plants are hard to handle at all times—would suggest moving the bed to a sandy location about 300 feet east.

Nolinas are slow but easy to grow.

The Penstemons are in too hot a place to do really well but if they struggle along a little longer they will make their own condition better.

The Prunus is poorly located. It is in a dry, hot conglomerate formation, where it is impossible to keep the plants moist and there is little food value in the soil.

The Rhamnus is very well located and growing very well.

Washington filifera is considered very choice by the rabbits and is eaten down as fast as it grows.

Yuccas grow very readily from seed but will not stand transplanting from the wild. All of the plants in the Garden were grown from seed and are making a fine growth.

The Condalias are placed on a north slope in heavy red adobe. They naturally come from the hot sandy desert. Under these conditions it is not practical to try them in these beds any more.

The Dendromecons and Romneyas are not well located as to soil and have not done well but it is desirable to try to make them grow here from the standpoint of beauty.

The Garryas grow and do well except when they are eaten and killed by rabbits.

Hyptis emoryi is growing and blooming nicely.

Juglans, the Black Walnuts, have done quite well and give promise of putting on a good growth this year.

The Populus usually grow with at least one foot in the water, and, on these dry hillsides, it is hard to get such conditions. The trees are growing very slowly for their natural growth. Each season a few die out.

The Ribes, at their best, are only fair. Their location is very poor but some may overcome this. It would seem advisable to vacate the extra planting of Eriogonum, located in Section "D," and use it for a double planting of those Ribes that do the worst in their present location. These beds are not fitted at all for Eriogonum.

Salazaria was transplanted from the desert and is doing as well as could be expected.

Salvias do well either from seed or plants from the wild. The plants in the Garden are growing very well.

Sphacele grows beautifully here, but in the latter part of June or early part of July the rabbits eat off every vestage of the tops and very few plants see another spring.

Umbellularia or Bay Tree is very slow growing but sturdy. This is the normal condition.

B. D. STARK, *Nurseryman.*

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## SUMMARY


| | |
|---|---|
| Families recorded | 67 |
| Genera recorded | 256 |
| Species recorded | 391 |

# PLANTS INDIGENOUS TO RANCHO SANTA ANA

Comprising a list of those species, arranged by families, found on Rancho Santa Ana, Orange and San Bernardino Counties, exclusive of any species introduced in connection with planting Rancho Santa Ana Botanic Garden.

Data compiled from specimens in

Rancho Santa Ana Botanic Garden Herbarium previous to June 15, 1931

by CARL B. WOLF

## PHYLUM PTERIDOPHYTA
FERNS AND FERN-ALLIES

### Family. POLYPODIACEAE.
Adiantum emarginatum—*Hooker.*
Aspidium rigidum argutum—*Eaton.*
Gymnogramme triangularis—*Koelf.*
Pellaea andromedaefolia—*Fee.*
Polypodium vulgare intermedium—*Fernald.*

### Family. EQUISETACEAE.
Equisetum funstoni—*A. A. Eaton.*

### Family. SALVINIACEAE.
Azolla filiculoides—*Lam.*

### Family. SELAGINELLACEAE.
Selaginella bigelovii—*Underw.*

## PHYLUM SPERMATOPHYTA
SEED-BEARING PLANTS

### Class. ANGIOSPERMAE
Sub-Class 1. Monocotyledones

### Family. TYPHACEAE.
Typha angustifolia—*Linn.*

### Family. NAIDACEAE
Potamogeton crispus—*Linn.*
Zannichellia palustris—*Linn.*

### Family. GRAMINEAE
#### Tribe. Festuceae
Bromus hordeaceus—*Linn.*
Bromus rigidus—*Roth.*
Bromus rubens—*Linn.*
Bromus sp.—(collection No. H-153).
Festuca myurus—*Linn.*
Poa sp.—(collection No. H-151).
Distichlis spicata—*Greene.*
Lamarckia aurea—*Moench.*
Melica imperfecta—*Trin.*

#### Tribe. Hordeae
Elymus condensatus—*Presl.*
Sitanion jubatum—*J. G. Smith.*
Hordeum murinum—*Linn.*
Agropyron sp.—(collection No. H-164).

#### Tribe. Aveneae
Avena barbata—*Brot.*

#### Tribe. Agrostideae
Agrostis verticillata—*Vill.*
Polypogon monspeliensis—*Desf.*
Gastridium ventricosum — *(Guan.) Schinz. & Thell.*
Muhlenbergia microsperma—*(DC.) Kunth.*
Sporobolus airoides—*Torrey.*
Sporobolus asperifolius—*Nees. & Meyen.*
Stipa lettermanii—*Vasey.*
Stipa parishii—*Vasey.*
Aristida bromoides—*H. B. K.*

#### Tribe. Chlorideae
Cynodon dactylon—*Pers.*

#### Tribe. Paniceae
Paspalum sp.—(collection No. H-1206).
Panicum barbipulvinatum—*Nash.*
Echinochloa crus-galli—*(L.) Beauv.*
Cenchrus pauciflorus—*Benth.*
Andropogon saccharoides—*Swartz.*
Holcus halepensis—*L.*

### Family. CYPERACEAE
Cyperus esculentus—*Linn.*
Cyperus laevigatus—*Linn.*
Cyperus melanostachyus—*H. B. K.*
Eleocharis acicularis—*R. & S.*
Eleocharis capitata—*R. Br.*
Eleocharis montana—*R. & S.*
Eleocharis rostellata—*Torrey.*
Scirpus americanus—*Pers.*
Scirpus cernuus—*Vahl.*
Scirpus validus—*Vahl.*
Carex praegracilis—*W. Booth.*

### Family. LEMNACEAE
Lemna cyclostasa—*Chev.*
Lemna triscula—*Linn.*
Wolffiella lingulata—*Hglm.*

### Family. JUNCACEAE
Juncus balticus—*Willd.*
Juncus balticus eremicus—*Jepson.*
Juncus bufonius—*Linn.*
Juncus phaeocephalus paniculatus—*Engelm.*
Juncus rugulosus—*Engelm.*
Juncus textilis—*Buch.*
Juncus torreyi—*Coville.*

Family. LILIACEAE

Bloomeria crocea—*(Torr.) Cov.*
Brodiaea capitata—*Benth.*
Calochortus catalinae—*Watson.*
Calochortus splendens—*Douglas.*
Calochortus weedi vestus—*Purdy.*
Nolina parryi—*Watson.*

Family. IRIDACEAE

Sisyrinchium bellum—*Watson.*

Sub-Class 2. Dicotyledones

Family. SAURURACEAE

Anemopsis californica—*(Nutt.) Hooker.*

Family. SALICACEAE

Salix argophylla—*Nutt.*
Salix laevigata—*Bebb.*
Salix lasiolepis—*Benth.*
Salix nigra vallicola—*Dudley.*
Populus fremontii pubescens—*Sargent.*
There is probably no P. fremontii in its glabrous form on Rancho Santa Ana.
Populus trichocarpa—*Torrey & Gray.*

Family. JUGLANDACEAE

Juglans californica—*Watson.*

Family. BETULACEAE.

Alnus rhombifolia—*Nuttall.*

Family. FAGACEAE

Quercus agrifolia—*Neé.*
Quercus dumosa—*Nuttall.*

Family. URTICAEAE

Urtica gracilis holosericea—*Jepson.*
Urtica urens—*Linn.*

Family. LORANTHACEAE

Phoradendron flavescens macrophyllum—*Engelm.*

Family. POLYGONACEAE

Polygonum aviculare—*Linn.*
Polygonum hydropiperoides—*Michx.*
Pterostegia drymarioides—*F. & M.*
Chorizanthe staticoides—*Benth.*
Eriogonum elongatum—*Benth.*
Eriogonum fasciculatum foliolosum—*Stokes.*
Eriogonum gracile—*Benth.*
Eriogonum thurberi—*Torrey.*
Rumex berlandieri—*Meisn.*
Rumex crispus—*Linn.*
Rumex persicarioides—*Linn.*

Family. CHENOPODIACEAE

Chenopodium album—*Linn.*
Chenopodium anthelminticum—*Linn.*
Chenopodium californicum—*Watson.*
Chenopodium murale—*Linn.*
Atriplex bracteosa—*Watson.*
Atriplex canescens—*James.*
Atriplex expansa—*Watson.*
Atriplex semibaccata—*R. Br.*
Salsola kali tenuifolia—*G. F. W. Mey.*
Cycloloma atriplicifolium—*Coulter.*

Family. AMARANTHACEAE

Amaranthus graecizans—*Linn.*
Amaranthus hybridus—*Linn.*
Amaranthus retroflexus—*Linn.*

Family. NYCTAGINACEAE

Mirabilis laevis—*Curran.*

Family. PORTULACACEAE

Calandrinia caulescens—*H. B. K.*
Montia perfoliata—*Howell.*
Portulaca oleracea—*Linn.*

Family. CARYOPHYLLACEAE

Cerastium viscosum—*Linn.*
Stellaria media—*(L.) Cyr.*
Stellaria nitens—*Nuttall.*
Spergularia salina sordida—*(Greene) Jepson.*
Silene antirrhina—*Linn.*
Silene gallica—*Linn.*
Silene laciniata—*Cav.*
Loeflingia squarrosa—*Nuttall.*

Family. RANUNCULACEAE

Paeonia brownii—*Douglas.*
Delphinium cardinale—*Hooker.*
Delphinium decorum—*F. & M.*
Ranunculus californicus—*Benth.*
Ranunculus cymbalaria—*Pursh.*
Clematis ligusticifolia—*Nuttall.*

Family. PAPAVERACEAE

Eschscholtzia californica—*Cham.*
Dendromecon rigida—*Benth.*
Romneya coulteri—*Harv.*

Family. FUMARIACEAE

Dicentra ochroleuca—*Engelm.*

Family. CRUCIFERAE

Alyssum maritimum—*Lam.*
Brassica adpressa—*Boiss.*
Brassica campestris—*Linn.*
Brassica nigra—*Koch.*
Capsella bursa-pastoris—*Moench.*
Lepidium lasiocarpum—*Nuttall.*
Lepidium nitidum—*Nuttall.*
Lepidium robinsonii—*Thell.*
Lepidium virginicum californicum—*Jepson.*
Radicula nasturtium aquaticum—*Britt. & Rendle*
Raphanus sativus—*Linn.*
Sisymbrium altissimum—*Linn.*
Sisymbrium pinnatum—*Greene.*
Thysanocarpus laciniatus—*Nuttall.*

Family. CRASSULACEAE

Cotyledon caespitosa—*Haw.*
Cotyledon pulverulenta—*Brewer & Watson.*
Hasseanthus variegatus—*(Watson) Rose.*
Tillaea erecta—*Hook. & Arn.*

Family. SAXIFRAGACEAE

Lithophragma heterophylla—*Torrey & Gray.*
Ribes malvaceum—*Sm.*
Ribes speciosum—*Pursh.*

Family. PLATANACEAE

Platanus racemosa—*Nuttall.*

Family. ROSACEAE

Adenostoma fasciculata—*Hook. & Arn.*
Cercocarpus betuloides—*Nuttall.*
Photinia arbutifolia—*Lindley.*
Potentilla glandulosa—*Lindley.*
Rosa californica—*C. & S.*
Rubus vitifolius—*C. & S.*

Family. LEGUMINOSAE

Amorpha fruticosa—*Linn.*
Astragalus didymocarpus—*Hook. & Arn.*
Astragalus leucopsis—*Torrey & Gray.*
Lathyrus strictus—*Nuttall.*
Lotus hamatus—*Greene.*
Lotus salsuginosus brevivexillosus—*Ottley.*
Lotus scoparius—*(Nutt.) Ottley.*
Lotus strigosus—*Greene.*
Lupinus bicolor microphyllus—*C. P. Smith.*
Lupinus hirsutissimus—*Benth.*
Lupinus longifolius—*(Wats.) Abrams.*
Lupinus sparsiflorus—*Benth.*
Lupinus succulentus—*Douglas.*
Lupinus truncatus—*Nuttall.*
Medicago hispida—*Gaertn.*
Medicago sativa—*Linn.*
Melilotus alba—*Desr.*
Melilotus indica—*All.*
Psoralea orbicularis—*Lindley.*
Trifolium fucatum—*Lindley.*
Trifolium involucratum—*Ort.*
Trifolium tridentatum aciculare—*McDer.*

Family. OXALIDACEAE

Oxalis wrightii—*Gray.*

Family. GERANIACEAE

Erodium circutarium—*L'Heritier.*
Erodium moschatum—*L'Heritier.*

Family. POLYGALACEAE

Polygala cornuta fishiae—*Jepson.*

Family. EUPHORBIACEAE

Croton californicus—*Mull. Arg.*
Euphorbia dictyosperma—*F. & M.*
Euphorbia maculata—*Linn.*
Euphorbia polycarpa—*Benth.*
Eremocarpus setigerus—*Benth.*
Stillingia linearifolia—*Watson.*

Family. ZYGOPHYLLACEAE

Tribulus terrestris—*Linn.*

Family. ANACARDIACEAE

Rhus diversiloba—*Torrey & Gray.*
Rhus integrifolia—*(Nutt.) Benth. & Hook.*
Rhus laurina—*Nuttall.*
Rhus trilobata—*Nuttall.*
Rhus ovata—*Watson.*
Schinus molle—*Linn.*

Family. RHAMNACEAE

Ceanothus macrocarpus—*Nuttall.*
Rhamnus crocea ilicifolia—*(Kellogg) Greene.*

Family. VITACEAE

Vitis girdiana—*Munson.*

Family. MALVACEAE

Malva parviflora—*Linn.*
Sphaeralcea fasciculata laxiflorum—*(Gray) Jepson.*

Family. CISTACEAE

Helianthemum scoparium vulgare—*Jepson.*

Family. VIOLACEAE

Viola pedunculata—*Torrey & Gray.*

Family. CACTACEAE

Opuntia occidentalis—*Engelm. & Bigel.*
Opuntia occidentalis—*Engelm & Bigel.* variety.
Opuntia parryi—*Engelm.*
Opuntia vaseyi—*Britt. & Rose*

Family. LYTHRACEAE

Lythrum californicum—*Torrey & Gray.*

Family. ONAGRACEAE

Epilobium californicum—*Hausskn.*
Epilobium holosericeum—*Jepson.*
Eulobus californicus—*Nuttall.*
Godetia bottae—*Spach.*
Godetia quadrivulnera—*(Dougl.) Spach.*
Jussiaea californica—*Jepson.*
Oenothera bistorta—*Nuttall.*
Oenothera contorta—*Douglas.*
Oenothera hookeri—*Torrey & Gray.*
Oenothera micrantha—*Hornem.*
Zauschneria californica villosa—*Jepson.*

Family. HALORAGEAE

Myriophyllum spicatum—*Linn.*

Family. UMBELLIFERAE

Apiastrum angustifolium—*Nuttall.*
Apium graveolens—*Linn.*
Bowlesia lobata—*R. & P.*
Conium maculatum—*Linn.*
Daucus pusillus—*Machx.*
Foeniculum vulgare—*Gaertn.*
Hydrocotyle ranunculoides—*Linn.*

Hydrocotyle umbellata—*Linn.*
Hydrocotyle verticillata—*Thunb.*
Lomatium utriculatum—*(T. & G.) G. & R.*
Oenanthe sarmentosa—*Presl.*
Osmorrhiza brachypoda—*Torrey.*
Sanicula bipinnatifida—*Douglas.*
Sanicula bipinnatifida flava—*Jepson.*
Sanicula menziesii—*Hook. & Arn.*
Torilus nodosa—*(L.) Gaertn.*

Family. PRIMULACEAE
Anagallis arvensis—*Linn.*
Samolus floribundus—*H. B. K.*

Family. GENTIANACEAE
Centaurium venustum—*(Gray) Rob.*
Eustoma silenifolium—*Salisb.*

Family. ASCLEPIADACEAE
Asclepias eriocarpa—*Benth.*
Philibertia heterophylla—*Jepson.*

Family. CONVOLVULACEAE
Convolvulus occidentalis—*Gray.*
Cuscuta californica—*Choisy.*
Cuscuta subinclusa—*D. & H.*

Family. POLEMONIACEAE
Gilia multicaulis—*Benth.*
Hugelia virgata—*Benth.*
Hugelia densiflora sanctora—*Jepson.*
Leptodactylon californicum glandulosum—*(Eastw.) Abrams.*
Linanthus parviflorus—*Greene.*
Linanthus pharnaceoides—*Greene.*
Pholx gracilis—*Greene.*

Family. HYDROPHYLLACEAE
Ellisia chrysanthemifolia—*Benth.*
Emmenenthe penduliflora—*Benth.*
Eriodictyon crassifolium—*Benth.*
Eriodictyon trichocalyx—*Heller.*
Nama parryi—*Gray.*
Nemophila aurita—*Lindley.*
Nemophila menziesii—*Hook. & Arn.*
Phacelia californica—*Cham.* variety.
Phacelia distans—*Benth.*
Phacelia hispida—*Gray.*
Phacelia minor—*Thell.*
Phacelia ramosissima suffrutescens—*Parry.*

Family. BORAGINACEAE
Amsinckia douglasiana—*DC.*
Cryptantha flaccida—*Greene.*
Cryptantha intermedia—*Greene.*
Cryptantha muriculata—*Greene.*
Heliotropium curassavicum—*Linn.*
Pectocarya penicillata—*A. DC.*

Family. VERBENACEAE
Lippia lanceolata—*Michx.*
Verbena urticifolia—*Linn.*

Family. LABIATAE
Lycopus americanus—*Muhl.*
Marrubium vulgare—*Linn.*
Salvia apiana—*Jepson.*
Salvia columbariae—*Benth.*
Salvia leucophylla—*Greene.*
Salvia mellifera—*Greene.*
Salvia mellifera X Salvia leucophylla—(collection No. H-60).
Salvia spathacea—*Greene.*
Stachys bullata—*Benth.*
Trichostema lanceolatum—*Benth.*

Family. SOLANACEAE
Datura tatula—*Linn.*
Nicotiana bigelovii—*Watson.*
Nicotiana glauca—*Graham.*
Petunia parviflora—*Juss.*
Physalis ixocarpa—*Brot.*
Solanum douglasii—*Dunal.*
Solanum xantii—*Gray.*

Family. SCROPHULARIACEAE
Antirrhinum coulterianum nevinianum—*(Gray.) Jepson.*
Castilleja foliolosa—*H. & A.*
Castilleja oblongifolia—*Gray.*
Collinsia bicolor—*Benth.*
Diplacus longiflorus—*Nuttall.*
Diplacus puniceus—*Nuttall.*
Linaria canadensis—*Dum.*
Mimetanthe pilosa—*Greene.*
Mimulus brevipes—*Benth.*
Mimulus cardinalis—*Douglas.*
Mimulus floribundus—*Douglas.*
Mimulus guttatus—*DC.*
Orthocarpus purpurascens—*Benth.*
Pentstemon antirrhinoides—*Benth.*
Pentstemon cordifolius—*Benth.*
Scrophularia californica—*Cham.*

Family. PLANTAGINACEAE
Plantago erecta—*Morris.*
Plantago hirtella—*H. B. K.*
Plantago insularis—*Eastwood.*
Plantago major—*Linn.*

Family. RUBIACEAE
Galium angustifolium—*Nuttall.*
Galium aparine—*Linn.*
Galium nuttallii—*Gray.*

Family. CAPRIFOLIACEAE
Lonicera subspicata—*Hook. & Arn.*
Sambucus glauca—*Nuttall.*
Symphoricarpos mollis—*Nuttall.*

Family. VALERIANACEAE
Plectritis ciliosa—*Jepson.*

Family. CUCURBITACEAE

Cucurbita foetidissima—*H. B. K.*
Echinocystis macrocarpa—*Greene.*

Family. COMPOSITAE

Tribe. Cichorieae

Lactuca scariola—*Linn.*
Malacothrix altissima—*Greene.*
Microseris platycarpha parishii—*Hall.*
Picris echioides—*Linn.*
Rafinesquia californica—*Nuttall.*
Sonchus oleraceus—*Linn.*
Sonchus asper—*Linn.*
Stephanomeria virgata—*Benth.*
Uropappus lindleyi—*Nuttall.*

Tribe. Mutisieae

Perezia microcephala—*Gray.*

Tribe. Eupatorieae

Brickellia californica—*Torrey & Gray.*

Tribe. Astereae

Aster exilis—*Ell.*
Baccharis emoryi—*Gray.*
Baccharis viminea—*DC.*
Chrysopis villosa fastigiata—*Hall.*
Corethrogyne filaginifolia rigida—*Gray.*
Ericameria palmeri—*Hall.*
Ericameria pinifolia—*Hall.*
Erigeron canadensis—*Linn.*
Erigeron foliosus—*Nuttall.*
Erigeron linifolia—*Willd.*
Grindelia bracteosa—*J. T. Howell*

Madroño 2:22, 1931. Type Locality—Rancho Santa Ana, Botanic Garden.

Gutierrezia sarothrae—*Britt. & Rusby.*
Hazardia squarrosa—*Greene.*
Heterotheca grandiflora—*Nuttall.*
Isocoma veneta vernonioides—*Jepson.*
Pentachaeta aurea—*Nuttall.*
Solidago occidentalis—*Nuttall.*

Tribe. Heliantheae

Bebbia juncea—*(Benth.) Greene.*
Bidens pilosa—*Linn.*
Bidens levis—*B.S.P.*
Encelia californica—*Nuttall.*
Helianthus annuus—*Linn.*

Tribe. Inuleae

Filago californica—*Nuttall.*
Gnaphalium beneolens—*Dav.*
Gnaphalium chilense—*Spreng.*
Gnaphalium decurrens californicum—*Gray.*
Gnaphalium leucocephalum—*Gray.*
Gnaphalium palustre—*Nuttall.*
Pluchea camphorata—*DC.*
Pluchea sericea—*Cov.*
Stylocline gnaphaloides—*Nuttall.*

Tribe. Madieae

Calycadenia tenella—*Torrrey & Gray.*
Centromadia pungens—*Greene.*
Hemizonia fasciculata—*Torrey & Gray.*
Layia platyglossa—*Gray.*

Tribe. Ambrosieae

Ambrosia psilostachya—*DC.*
Franseria acanthocarpa—*Gov.*
Xanthium canadense—*Miller.*
Xanthium spinosum—*Linn.*

Tribe. Helenieae

Baeria artistata—*Gov.*
Chaenactis gladriuscula—*DC.*
Eriophyllum confertiflorum—*Gray.*
Helenium puberulum—*DC.*
Porophyllum gracile—*Benth.*

Tribe. Anthemideae

Achilea millefolium californicum—*Jepson.*
Anthemis cotula—*Linn.*
Antemisia californica—*Less.*
Artemisia dracunculus—*Linn.*
Artemisia tridentata—*Nuttall.*
Artemisia vulgaris heterophylla—*(Nutt.) Hall.*
Cotula australis—*Hooker.*
Cotula coronopifolia—*Linn.*
Matricaria suaveolens—*Buch.*

Tribe. Senecioneae

Lepidospartum squamatum—*Gray.*
Senecio californicus—*DC.*
Senecio douglastii—*DC.*
Senecio vulgaris—*Linn.*
Tetradymia comosa—*Gray.*

Tribe. Cynareae

Centaurea melitensis—*Linn.*
Cirsium californicum—*Gray.*
Cirsium occidentale—*(Nutt.) Jepson.*

Fritillaria biflora (Mission Bells) Lily Family.
has just been found on the ranch.

## RANCHO SANTA ANA BOTANIC GARDEN STAFF

MRS. SUSANNA BIXBY BRYANT, *Founder*

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